

- 8 -

**REMARKS**Status of the Subject Application and the Present Response

Claims 1-3, 5-10, 11-13, 15-44 are pending in the patent application. Claims 21-44 have been previously withdrawn from examination by the Examiner as directed to non-elected inventions. Claims 11-13 and 15-20 are withdrawn by the Examiner in the instant Office Action as allegedly directed to patentably distinct invention. Claims 1-3 and 5-10 are currently under examination and stand rejected.

With entry of the instant paper, Applicants have further amended Claims 1 and 11 to more particularly point out and distinctly claim Applicants' invention. Support for the claim amendments introduced herein are self evident or otherwise provided in the specification, e.g., the original claims. No new matter has been introduced by these claim amendments.

Applicants submit the following remarks to address issues raised in the instant Office Action. Withdrawal of the outstanding rejections and reconsideration of the subject patent application are respectfully requested.

Objection to the specification

The Examiner alleges that the reference in the specification to the conversion of "singlet oxygen" into "reactive oxygen species" is repugnant to the art-recognized definition of reactive oxygen species. According to the Examiner, singlet oxygen belongs to the broader genus of reactive oxygen species. While Applicants do not completely agree with the Examiner's interpretation of the noted terms and the objection, Applicants will make necessary amendments to the specification once an allowable subject matter is indicated by the Examiner.

The Restriction Requirement

The instant Office Action further restricts claims previously under examination into two alleged distinct inventions, I (claims 1-3 and 5-10) and II (Claims 11-13 and 15-20). The Office Action then constructively elects Claims 1-3 and 5-10 for further prosecution in the subject application. In response, Applicants note that the claims (e.g., Claims 1 and 11) as currently amended no longer recites "antibody response" or "antibody-generated inflammatory response" which appear to be the sole basis of the instant restriction. Also, Claims 1-3, 5-10, 11-13 and 15-20 as currently amended substantially parallel the originally filed Claims 1-20 which fall within a single restricted invention as indicated by the Examiner in the Office Action dated February 8, 2005. For these reasons alone, the instant restriction requirement should be withdrawn.

In addition, Applicants note that the Examiner's reasoning underlying the instant restriction is clearly incorrect. The following remarks are provided in case the Examiner decides to maintain the restriction between the currently amended Claims 1-3/5-10 and Claims 11-13/15-20. Group 1 claims (e.g., Claim 1) are directed to methods for detecting an antibody response (or an immunological response as currently amended) while Group 2 claims (e.g., Claim 11) are directed to methods for detecting an antibody-generated inflammatory response (or an inflammatory response as currently amended). Other than the difference in the preambles, the two groups recite almost identical steps. It is acknowledged that step c of claim 1 specifies detecting an antibody response (or an immunological response as currently amended) while step c of claim 11 recites detecting an antibody-generated inflammatory response (or an inflammatory response as

- 10 -

currently amended). However, it is readily apparent that detecting an antibody response (or an immunological response) and detecting an antibody-generated inflammatory response (or an inflammatory response) are not mutually exclusive as apparently believed by the Examiner. To the contrary, one with the basic knowledge of immunology would appreciate that antibody responses encompass antibody-generated inflammatory response. An antibody-generated inflammatory response (or simply "an inflammatory response" as currently amended) will necessarily have an element of antibody response (or "an immunological response" as currently amended), e.g., antibody recognition of an antigen. In other words, there would be no antibody-generated inflammatory response but for the existence of an antibody recognition of a cognate antigen, i.e., an antibody response. Hence, these two groups of claims are undoubtedly not patentably distinct.

In addition, due to the substantially identical elements recited in the claims, it is equally obvious that these two groups of claims are unlikely patentable, if not clearly unpatentable, over each other. As set forth in the claims, the claimed methods in the two groups employ the same materials and entail the same or near identical steps. Patentability of one group will almost certain indicate patentability of the other. Further, because the claims recite essentially identical steps and antibody responses (or "immunological responses" as currently amended) include antibody-generated inflammatory responses (or "inflammatory responses" as currently amended), any prior art relevant to Group 2 claims will surely be encompassed by a prior art search for Group 1 claims. Thus, there will simply be no additional burden at all to include Group 2 claims in the examination of Group 1 claims.

In summary, none of the elements required for a proper

- 11 -

restriction requirement as set forth in MPEP §§ 803-806 can be established for the restriction between these two groups of claims. Rejoinder of claims 11-13 and 15-20 for substantive examination in the subject patent application is strongly urged.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 1-3 and 5-10 are rejected as allegedly being indefinite for failing to particularly point out and distinctly claim Applicant's invention. It is alleged in the Office Action that the claims are indefinite due to the recitations of "antibody response," "antibody-generated oxygen species" and "analyzing the sample for an oxidized chemical probe to detect" is indefinite.

Applicant respectfully disagree with the Examiner's assertions in rendering the instant rejection. Nevertheless, in an effort to facilitate prosecution, Application have amended Group 1 claims (i.e., claims 1-3 and 5-10) by deleting the recitation of "antibody-generated." The amended claims also no longer recites "antibody response." Further, independent Claim 1 has also been amended to specify detecting an oxidized chemical probe in the sample. Claim 11 and dependent claims in Group 2 have been similarly amended. Therefore, Applicants request that the instant rejection be withdrawn.

Rejection under 35 U.S.C. § 102

Claims 1-3 and 5-10 are rejected as allegedly anticipated by Iribarren et al. (Arterioscler. Thromb. Vasc. Biol. 17:1171, 1997). The Examiner asserts that this reference describes a method for detecting an antibody response that comprises the steps as recited in the presently claimed invention. Specifically, it is alleged in the Office Action that Iribarren

- 12 -

et al. teaches the use of a probe for singlet oxygen in such a method.

In response, Applicants note that the presently claimed invention relates to methods of using of a chemical probe for a reactive oxygen species in the detection of an oxidized product of the chemical probe in a sample obtained from a mammal. The pending claims as currently amended specify that reactive oxygen species is selected from the group consisting of superoxide radical, hydroxyl radical, peroxy radical, hydrogen peroxide and ozone. The ability of antibodies to generate these oxygen species from singlet oxygen was not known or suggested in the art prior to the pioneering discoveries by the present inventors as reported in, e.g., Wentworth et al., Proc. Natl. Acad. Sci. USA 97:10930-5, 2000; Wentworth et al., Science 293:1806-11, 2001; and Wentworth et al., Science 298:2195-9, 2002. Singlet oxygen is not a reactive oxygen species as recited in the pending claims. Hence, even assuming without conceding that Iribarren et al. indeed discusses using a chemical probe to detect the presence of singlet oxygen in a sample obtained from a mammal, it nonetheless does not anticipate the presently claimed invention. Therefore, the instant rejection must be withdrawn.

#### **CONCLUSION**

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If a telephone conference would expedite prosecution of this application, please telephone the undersigned attorney at

- 13 -

858-784-2937. If there are any additional fees (or overpayments) associated with this Response, or any Response associated with this application, the Director is hereby authorized to charge (or credit) our Deposit Account No. 19-0962.

Respectfully submitted,

December 28, 2006

Date



Hugh Wang, Reg. No. 47,163

THE SCRIPPS RESEARCH INSTITUTE  
10550 North Torrey Pines Road  
Mail Drop TPC 8  
La Jolla, California 92037  
(858) 784-2937